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Date: March 12, 2004
Subject: Application No. 09/883,965

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Pages (incl. this): 7
Our File No.: 05721.0025

Confirmation Copy to Follow: NO

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Proposed Claims 4-19

4. (new) An apparatus for compensating luminance level of a signal, the apparatus comprising:

a first masking circuit for masking a first predetermined image area component of an digital video signal to output a first masked signal;

a second masking circuit for masking a second predetermined image area component, which is not equal to the first predetermined image area component, of the digital video signal to output a second masked signal;

a first memory for storing frequency distribution data for each of a plurality of luminance levels corresponding to the first masked signal for each predetermined period;

a second memory for storing frequency distribution data for each of a plurality of luminance levels corresponding to the second masked signal for each predetermined time period;

a multiplier for multiplying frequency distributed data output by the first memory by a coefficient;

a minimum value selector for comparing the multiplied frequency distributed data and frequency distribution data output by the second memory and for outputting smaller of the multiplied frequency distribution data and the frequency distribution data output by the second memory;

an accumulator circuit for accumulating frequency distribution data output by the minimum value selector in an accumulation histogram memory; and

a compensation circuit for compensating luminance level of the digital signal based on the accumulated frequency distribution data.

5. (new) The apparatus of claim 4 further comprising an analog to digital converter for receiving an analog video signal and generating the digital signal.

6. (new) The apparatus of claim 5 further comprising a synchronization separation circuit for extracting a vertical synchronizing signal and a horizontal synchronizing signal from the analog video signal and for outputting the vertical synchronizing signal and the horizontal synchronizing signal to the first masking circuit and the second masking circuit.

7. (new) The apparatus of claim 4, wherein said first memory outputs the frequency distribution data for a first predetermined period corresponding to a horizontal scanning period of a first number of vertical detection range lines, and said second memory outputs the frequency distribution data for a second predetermined period corresponding to a horizontal scanning period of a second number of vertical detection range lines which includes the first number of vertical detection range lines.

8. (new) The apparatus of claim 4, wherein the compensation circuit further comprises a normalization arithmetic circuit for normalizing the accumulated frequency distribution data.

9. (new) The apparatus of claim 8 further comprising a look-up table memory for storing a normalized version of the accumulated frequency distribution data.

10. (new) A method for compensating luminance level of a digital signal, the method comprising:

masking a first predetermined image area component of a digital video signal to output a first masked signal using a first masking circuit;

masking a second predetermined image area component, which is not equal to the first predetermined image area component of the digital video signal, to output a second masked signal using a second masking circuit;

storing frequency distribution data for each of a plurality of luminance levels corresponding to the first masked signal for each predetermined period in a first memory area;

storing second frequency distribution data for each of a plurality of luminance levels corresponding to the second masked signal for each predetermined time period in a second memory area;

multiplying frequency distribution data output by the first memory area by a coefficient;

comparing the multiplied frequency distributed data and frequency distribution data output by the second memory area;

outputting smaller of the multiplied frequency distributed data and frequency distribution data output by the second memory area;

accumulating frequency distribution data in an accumulation histogram memory; and

compensating luminance level of the digital video signal based on the accumulated frequency distribution data.

11. (new) The method of claim 10 further comprising receiving an analog video signal and generating the digital video signal using an analog to digital converter.

12. (new) The method of claim 10 further comprising extracting a vertical synchronizing signal and a horizontal synchronizing signal from the analog video signal and outputting the vertical synchronizing signal and the horizontal synchronizing signal to the first masking circuit and the second masking circuit.

13. (new) The method of claim 10, wherein the frequency distribution data in the first memory area is output for a first predetermined period corresponding to a horizontal scanning period of a first number of vertical detection range lines, and the frequency distribution data in the second memory area is output for a second predetermined period corresponding to a horizontal scanning period of a second number of vertical detection range lines which includes the first number of vertical detection range lines.

14. (new) The method of claim 10, further comprising normalizing the accumulated frequency distribution data.

15. (new) A system for compensating luminance level of a digital signal the system comprising:

means for masking a first predetermined image area component of a digital video signal to output a first masked signal using a first masking circuit;

means for masking a second predetermined image area component, which is not equal to the first predetermined image area component, of the digital video signal to output a second masked signal using a second masking circuit;

a first means for storing frequency distribution data for each of a plurality of luminance levels corresponding to the first masked signal for each predetermined period;

a second means for storing frequency distribution data for each of a plurality of luminance levels corresponding to the second masked signal for each predetermined period.

means for multiplying frequency distribution data output by the first means for storing frequency distribution data by a coefficient;

means for comparing the multiplied frequency distributed data and frequency distribution data output by the second means for storing frequency distribution data;

means for outputting smaller of the multiplied frequency distributed data and frequency distribution data output by the second means for storing frequency distribution data;

means for compensating luminance level of the digital video signal based on the accumulated frequency distribution data.

16. (new) The system of claim 15 further comprising means for receiving an analog video signal and generating the digital video signal.

17. (new) The apparatus of claim 15, wherein said first means outputs the frequency distribution data for a first predetermined period corresponding to a horizontal scanning period of a first number of vertical detection range lines, and said second means outputs the frequency distribution data for a second predetermined period corresponding to a horizontal scanning period of a second number of vertical detection range lines which includes the first number of vertical detection range lines.

18. The system of claim 15 further comprising means for normalizing the accumulated frequency distribution data.

19. The system of claim 18 further comprising means for storing a normalized version of the accumulated frequency distribution data.